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Edited by

FRANCIS HEMMING, C.M.G., C.B.E.

Secretary to the Commission

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OPINION 188

Suppression of the name *Cobra* Laurenti, 1768,
and suspension of the rules for *Bitis* Gray, 1842
(Class Reptilia, Order Squamata)

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OPINION 188.

SUPPRESSION OF THE NAME *COBRA* LAURENTI, 1768, AND SUSPENSION OF THE RULES FOR *BITIS* GRAY, 1842 (CLASS REPTILIA, ORDER SQUAMATA).

SUMMARY.—Under suspension of the rules (i) the name *Cobra* Laurenti, 1768, is hereby suppressed ; (ii) all type designations for the genus *Bitis* Gray, 1842, made prior to the date of this *Opinion* are hereby set aside ; and (iii) *Vipera (Echidna) arietans* B. Merrem, 1820, is hereby designated as the type of *Bitis* Gray, 1842 (Class Reptilia, Order Squamata). The name *Bitis* Gray, 1842, so defined, is hereby added to the *Official List of Generic Names in Zoology* as Name No. 621.

I.—THE STATEMENT OF THE CASE.

The problem presented by the name *Cobra* Laurenti, 1768, was submitted to the International Commission on Zoological Nomenclature by Dr. H. W. Parker, Assistant Keeper, Department of Zoology, British Museum (Natural History) in the following statement forwarded under cover of a letter dated 30th December 1937 :—

Stejneger (1936, *Copeia* 3 : 140) ¹ has shown that the generic name *Cobra* Laurenti, 1768, has priority over, and should be used instead of, the name *Bitis* Gray, 1842. It is believed that, on account of the reasons set forth below, the strict application of the rules of zoological nomenclature will result in greater confusion than uniformity and it is requested that a suspension be granted under the powers conferred on the Commission by the 9th International Congress of Zoology.

The generic name *Cobra* Laurenti, 1768 (*Specimen medicum* : 103), without originally designated type, has not hitherto been used in zoological nomenclature ; Stejneger (1936, *loc. cit.*) has shown that it should be used for the African viperine genus usually known as *Bitis* Gray, 1842.

But the word "Cobra" derived from the Latin "coluber," through the Portuguese, has acquired a very different meaning, never being applied to viperine snakes and in some languages, at least, being applied to a restricted group of colubrine snakes :—

- (a) In Portuguese the word still means "snake" and do Amaral (1926, *Bol. Mus. nac. Rio de Janeiro* 2 (2) : 4) lists 15 different snakes whose common names are compounded from Cobra, e.g. Cobra-coral, Cobra-lisa, Cobra-preta, etc. None of these snakes is a viper.

¹ For the text of the note published by Stejneger on this subject, see paragraph 2 below.

- (b) In the English language the word has gained universal acceptance. It is defined in the *Shorter Oxford Dictionary* (1933, 1 : 332), thus :—

Cobra 1817. Short for next.

Cobra de Capello 1668 The hooded or spectacled snake (*Naja tripudians*), a venomous serpent found in India having the power of dilating the head and neck when irritated, so as to produce the resemblance of a hood.

In specialist, and especially in medical, literature the word "cobra" is almost universally used as an alternative group-name to designate the proteroglyphous colubrine snakes of the genus *Naja* Laurenti, 1768.

- (c) In French the usage is similar to that in English; the *Petit Larousse Illustré* (18th ed., 1907) gives :—

Cobra ou Cobra capello n.m. Nom vulgaire des serpents venimeux du genre *Naja*.

- (d) In German the word has not, apparently, attained to such universal usage, but is used in scientific literature in the same sense, e.g. :—

Ahl. 1930, *Tabulae biologicae* 6 Suppl. : 666 et seq. :—

Wirkung des Giftes der Cobra (*Naja tripudians*) . . .

Schaumann, 1936, *Behringwerk Mitteilungen* 7 : 35 et seq. :—

Die Gifte der beiden afrikanischen Cobra-Arten, der *Naja haje* (Kleopatra-schlange) aus Nordafrika und *Naja flava* (Kap-Cobra) aus Südafrika . . .

- (e) In Swedish also, the usage is similar to that in German, e.g. :—

Cyren, 1934 (*Ormar i Fantasi och Verklighet*, Stockholm : 193 et seq.) uses "Kobran" alone or in combination (e.g. Kungskobran) for snakes of the genus *Naja*.

Instances such as the foregoing could be multiplied and probably found in other languages, so that it can safely be claimed that "cobra" as a vernacular name has achieved a status so secure that the use of the same name in a generic sense for the African Puff-adders must result in confusion. The most serious consequences may well arise from any such confusion, since *Naja* (= vernacular "cobra") and *Bitis* (= *Cobra* Laurenti) are genera of highly poisonous snakes belonging to different families whose venoms are vastly different and require very different medical treatment in cases of snake-bite. It is not too much to say that the identification of a Puff-adder (*Bitis*) as a *Cobra* might easily result in the administration of the wrong antivenine with serious, if not fatal, results. Many of the antivenines are marketed under names or with instructions referring to "cobra," e.g. :—

- (1) The antivenine produced at the Kasauli Research Institute, Bombay, C.R.I. 105 is described as polyvalent for Cobra and Russell's viper.
- (2) The Pasteur Inst., Paris, produces "Sérum antivenimeux C" which "est spécifique vis-à-vis des venins de Najas (*cobra capella* principalement, et Bungarus) de l'Inde et de l'Égypte."
- (3) I.G. Farbenindustrie Akt. Ges. In *Behringwerk Mitteilungen*, 1936, 7, part 4 (Schlossberger, Bieling und Demnitz) reference is frequently made to a "Cobra-Serum" specific against *Naja haje* and *Naja flava*, whereas the antivenine specific against *Bitis* (= *Cobra* Laurenti) is known as "Puffotter Serum."

2. The following is the text of the passage relating to the genus *Cobra* Laurenti, 1768, published by Commissioner Stejneger in

1936 (*Copeia* 3 : 140) under the title "Types of the Amphibian and Reptilian Genera proposed by Laurenti in 1768" referred to in the opening sentence of the petition quoted in the preceding paragraph :—

Genus XXXII : *Cobra*, p. 103

Laurenti's genus embraces three nominal species, viz., *C. clotho*, *C. lachesis*, and *C. atropos*. The two former are based on figures by Seba (Seba II. 93 and 94.2) and are practically unidentifiable. Moreover, by most authors they have been considered probable synonyms of the third species, Linnaeus's *Coluber atropos*. This view makes the latter type by monotypy. But, in addition, Fitzinger (in 1826 *Neue Classif. Rept.* : 33) established *Cobra* for Daudin's *Vipera atropos*, which thus becomes type of the genus by subsequent designation.²

Cobra is consequently the proper name for the genus commonly known as *Bitis*.

II.—THE SUBSEQUENT HISTORY OF THE CASE.

3. Before any action had been taken on the present case, the International Commission received a letter dated 3rd February 1938 from the Royal Society of Tropical Medicine and Hygiene (London) containing the text of a resolution relating to this case that had been unanimously adopted by the Council of that Society at their meeting held on 20th January 1938. This resolution was as follows :—

The Council of the Royal Society of Tropical Medicine and Hygiene views with alarm the proposal to substitute the generic name *Cobra* Laurenti, 1768, for *Bitis* Gray, 1842. Having regard to the established meaning of the word "cobra" in the English and other languages for proteroglyphous colubrine snakes, the use of a similar generic name for a viperine snake must result in great confusion which may have serious practical consequences in medicine. They are of the opinion that this is an occasion when the strict application of the Rules of Zoological Nomenclature will "result in greater confusion than uniformity" and that a suspension of the rules under the power conferred on the Commission by the 9th International Congress of Zoology is desirable.

4. Copies of the petition submitted in this case and of the resolution in regard thereto received from the Royal Society of Tropical Medicine and Hygiene were communicated to the Members of the Commission on 14th February 1938, together with the following note by Commissioner Karl Jordan, President of the Commission :—

² Commissioner Karl Jordan has pointed out (*in litt.*, 19th March 1937) that Fitzinger did not designate a type for *Cobra* Laurenti but for *Cobra* Fitzinger. No type was designated for *Cobra* Laurenti until the publication of the above paper by Stejneger in 1936.

Cobra Laurenti was diagnosed by the "author" (Herr Winterl, I am told) and contains three species, all described and all previously figured, *Cobra clotho*, *Cobra lachesis* and *Cobra atropos*. The first two of these are based on figures by Seba and are not identifiable with certainty, but have been generally regarded as synonyms of the third species, the *Coluber atropos* of Linnaeus, which was designated as the type of *Cobra* by Fitzinger (1826).³ The type of *Coluber atropos* Linnaeus is still in existence and is identified by Anderson (1899, *Svensk. Vet. Akad. Handl.* 24 (No. 4) : 8) as a Puff-adder.

Stejneger, therefore, is right in stating that the name *Cobra Laurenti* applies to the Puff-adders and not to the Hooded Snakes almost universally referred to in the vernacular as Cobras. The clash between the vernacular and the scientific meaning of the same name would not be of great importance, if the matter ended there; but the question of snake-serums enters the argument, and for that reason the clash between the scientific and the vernacular languages might lead to the gravest misunderstandings.

5. The comments received from Members of the International Commission disclosed an overwhelming consensus of opinion in favour of suspending the rules in order to suppress the name *Cobra Laurenti*, 1768, and to validate *Bitis* Gray, 1842, in its place :—

(i) *Comment by Commissioner W. T. Calman :*

I wish to support very strongly Mr. Parker's proposal for the suspension of the rules and suppression of the name *Cobra* as a generic name. This is emphatically one of the cases where we must consider the interests of people who are not systematic specialists.

(ii) *Comment by Commissioner Leonhard Stejneger :⁴*

I agree that the reinstitution of *Cobra Laurenti*, 1768, for *Bitis* Gray would lead to greater confusion than stability. The argument advanced in the unanimous resolution of the Royal Society of Tropical Medicine and Hygiene is convincing. Purely taxonomically, the change might not cause much confusion, but in biological science at large it certainly would. I vote for the suppression of *Cobra Laurenti*.

(iii) *Comment by Commissioner Rudolf Richter :*

Die Suspension der Regeln zu Gunsten von *Bitis* Gray, 1842, ist zweckmässig. Ich stimme dafür.

Dr. R. Mertens, als Herpetologe macht auf folgendes aufmerksam : Nicht beizupflichten ist der Ansicht von Jordan⁵ und Stejneger,⁶ dass *Cobra lachesis* Laurenti, 1768, eine mit Sicherheit nicht deutbare Art sei. Laurenti's *Cobra lachesis* ist aber auf

³ For a correction by Dr. Jordan of this statement, see footnote 2.

⁴ The present note sets out Commissioner Stejneger's views as to the action which should be taken by the Commission on this case. For his analysis of the position as it then stood under the Code, see paragraph 2 above.

⁵ The note by Commissioner Karl Jordan here referred to is quoted in paragraph 4 above.

⁶ The note by Commissioner Stejneger here referred to is quoted in paragraph 2 above.

Fig. 2, Taf. 94, von Seba's *Thesaurus* II begründet, die ganz eindeutig die gewöhnliche Puffotter darstellt. Auch das von Laurenti in der Diagnose hervorgehobene Merkmal "*Fascia nigra transvers per oculos*" spricht für diese Art. In Übereinstimmung damit hat auch Boulenger in seinen *Catalogue of Snakes* (3 : 493) (1896) *Cobra lachesis* in die Synonymen-Liste der gewöhnlichen Puffotter, *Bitis arietans* Merrem, 1820, aufgenommen.

Der richtige Name für diese Schange würde also lauten—falls die Regeln zu Gunsten von *Bitis* aufgehoben werden sollten—*Bitis lachesis* Laurenti.

Hierdurch wird unsere Zustimmung für die Suspension nicht berührt.

In Übereinstimmung mit Dr. R. Mertens.

(iv) *Comment by Commissioner C. W. Stiles :*

Removed temporarily from literature, I cannot verify the premises presented. Unless the two herpetologists on the Commission can show that those premises are erroneous, I favor suspension.

When fields other than zoology are affected (as Geology, Medicine, Law, Agriculture, etc.), the Commission will do well to be very cautious about applying Priority. When human life is a possible factor—as represented in the premises—priority becomes even more serious than usual.

(v) *Comment by Commissioner A. do Amaral :*

Stejneger's standpoint is certainly quite correct. If considered from a purely nomenclatorial angle, it is not objectionable. For practical reasons, however, as set forth by Parker, it must not be adhered to. I favour the suspension of the rules as proposed by Parker in this case.

(vi) *Comment by Commissioner James L. Peters :*

This appears to be just the type of case for which suspension of the rules should be granted, since there seem to be very definite advantages to be gained by retaining *Bitis* Gray, 1842. Where a name relates to a species of considerable economic or medicinal value, a large amount of literature dealing with these aspects inevitably arises; the contributors are not at all concerned with taxonomy and have no knowledge of nomenclature and, having no such knowledge, keep right on using the names to which they are accustomed. Under these circumstances it would seem best to grant suspension of the rules.

(vii) *Comment by Commissioner Francis Hemming :*

One of the most important functions of the International Commission is to secure stability for the names of organisms of importance in the applied sciences such as medicine and agriculture. It was largely for this purpose that the International Congress of Zoology first established the *Official List of Generic Names in Zoology* and later conferred upon the Commission plenary power to suspend the rules in certain cases. The present, in my opinion, is clearly a case where resort should be had to both these remedies, that is to say the name *Cobra* Laurenti, 1768, should be suppressed under the plenary powers and the name *Bitis* Gray, 1842, should be placed on the *Official List*.

6. At the same time seven other Commissioners intimated that they also considered that the plenary powers should be used in this case.

7. At the time when the vote was taken on this case, there were two vacancies on the Commission and of the 16 Members of the Commission, 14 Commissioners voted in favour of granting the petition, 1 Commissioner did not vote, and 1 Commissioner expressed the view that the suspension of the rules was not necessary, since, in his opinion, any danger to human beings through confusion between the generic name *Cobra* Laurenti and the vernacular word "cobra" could be obviated through the careful labelling and description of anti-venom remedies.

8. In view of the importance of the issues raised in this case and of the fact that all but two of the Commissioners had promptly and emphatically voted in favour of the suspension of the rules, Commissioner Karl Jordan, as President of the Commission, ruled in December 1938 that, as a preliminary to the issue of an *Opinion* granting the relief asked for in the petition, the case should be advertised in the manner prescribed in proviso (a) to Article 1 of the Plenary Powers Resolution adopted by the Ninth International Congress of Zoology at Monaco in March 1913,⁷ notwithstanding the fact that one Commissioner (Witmer Stone) had expressed the view that the suspension of the rules was not necessary in this case.

9. In view of the general feeling of the members of the Commission in regard to this case, Commissioner Witmer Stone raised no objection to this course and acquiesced in the arrangement that he should be deemed not to have formally voted against the action proposed to be taken by the Commission.

10. Before this case could be advertised in the manner indicated in paragraph 8 above, it was necessary to determine the type species of the genus *Bitis* Gray, 1842, since the determination of this question was an indispensable preliminary to the placing of that name on the *Official List of Generic Names in Zoology*. In response to a request by the Secretary to the Commission, Dr. H. W. Parker furnished to the Commission the following note on this subject (16th June 1939) :—

As regards the type of *Bitis* Gray, 1842, this name was proposed as a subgenus or section of a genus ⁸ for five nominal species of which two are

⁷ See Declaration 5 (1943, *Opinions and Declarations rendered by the International Commission on Zoological Nomenclature* 1 : 31-40).

⁸ Gray applied what he called "*Clotho* Wagler (part)" as the name of the genus of which he regarded *Bitis* as a subgenus. The name *Clotho* was,

species inquirendae; the first mentioned of the other three is "*Clotho arietans*. *Echidna arietans*, Merrem. *Col. Bitis*, Bonat. *Vipera inflata*, Burchel. *V. brachyura* Cuv. Wagler Amp. t. 11. *V. arietans*, Schlegel, 557, t. 21, fig. 2, 3."

I take it that the citation as a synonym, of *Col. Bitis* makes the type by absolute tautonymy, were it not for the unfortunate fact that there is no such name; Bonnatere actually has a *Coluber Bitin* based on Seba II Pl. 98 fig. 5 etc. What are your views on the point?

Echidna arietans was proposed by Merrem in 1820, and I notice that he also includes, as one of its synonyms, "*Coluber Bitis* Bonnat. Oph. p. 22."

11. In further discussion with Commissioner Francis Hemming (*Secretary to the Commission*), Dr. Parker stated that the works of the old authors such as Seba were so difficult to interpret that he could not affirm with absolute certainty that *Coluber bitin* Bonnatere (= Seba 2 pl. 98 fig. 5) was the same species as *Vipera* (*Echidna*) *arietans* Merrem, 1820, the generally accepted type of *Bitis* Gray, 1842.

12. This aspect of the present case was discussed at the meeting of the Plenary Conference between the President of the Commission and the Secretary to the Commission convened in London on Monday, 19th June 1939, under the arrangement agreed upon by the International Commission at their meeting held at Lisbon on Wednesday, 18th September 1935 (Lisbon Session, 5th Meeting, Conclusion 10).⁹ At this meeting, the Plenary Conference

however, never published by Wagler and it must be attributed to Gray himself, since he was the first author to publish it. He published it first in 1840, *Syn. Contents Brit. Mus.* (ed. 42) : 41, but the name there appeared without an "indication" within the meaning of proviso (a) to Article 25 and was therefore a *nomen nudum*. It was next published by Gray in 1842, *Zool. Miscell.* : 69, where a diagnosis was given but no type was designated. This is the first valid publication of the name *Clotho*. Thus, the name *Bitis* Gray, 1842, was published as the name of a new subgenus of the genus *Clotho*, then also a new name. The type of *Clotho* Gray, 1842, is, by absolute tautonymy, *Cobra clotho* Laurenti, 1768, which (as stated by Stejneger in the passage quoted in paragraph 2 of the present *Opinion*) is usually treated as being identical with *Cobra atropos* Laurenti, 1768, which, in turn, is identical with *Vipera* (*Echidna*) *arietans* Merrem, 1820, the species which (as explained by Dr. Parker in the passage quoted in paragraph 10 of the present *Opinion*) is commonly accepted as the type of *Bitis* Gray, 1842. Thus, the subgeneric name *Bitis* Gray, 1842, is a synonym of the generic name *Clotho* Gray, 1842. The name *Bitis* Gray is not, however, invalidated on this account, since *Clotho* Gray is itself invalid under Article 34 of the Code by reason of its being a homonym (1) of *Clotho* Faujas de St. Fond, 1808, *Ann. Mus. Hist. nat.*, Paris 11 (65) : 390, (2) of *Clotho* Walckenaer, 1808, in Latreille, *Gen. Crust. Ins.* 4 : 371, and (3) of *Clotho* de Blainville, 1824, *Dict. Sci. nat.* 32 : 344.

⁹ For the text of this decision, see 1943, *Bull. zool. Nomencl.* 1 : 48.

(Plenary Conference, 1st Meeting, Conclusion 16)¹⁰ :—

(a) took note :—

- (i) that *Vipera (Echidna) arietans*, Merrem, 1820 (*Tent. Syst. Amph.* : 152) was the generally accepted type of *Bitis* Gray, 1842 (*Zool. Miscel.* : 69);
- (ii) that the above species was accepted as the type of *Bitis* Gray by absolute tautonymy (Article 30(I)(d) of the Code) through the citation by Gray of "*Col. Bitis Bonat.*" as a synonym of *Vipera (Echidna) arietans* Merrem, the third of the five nominal species placed by him in *Bitis* Gray, when he first published that name;
- (iii) that in fact, however, Bonnaterre never published the name *Coluber bitis* but that he had published (1790, *Ency. méth. (Oph.)* : 22) a name "*Coluber Bitin*" based on fig. 5 on pl. 98 of volume 2 of Seba's *Thesaurus*;
- (iv) that, although it was probable that *Coluber bitin* Bonnaterre was identical with *Vipera (Echidna) arietans* Merrem, this identification could not be affirmed with certainty;

(b) agreed :—

- (i) that part of the object of the Commission in deciding to suppress the name *Cobra Laurenti*, 1768, was to validate the existing use of the name *Bitis* Gray, 1842, but that, having regard to (a) (ii) to (iv) above, it was doubtful (1) whether *Vipera (Echidna) arietans* Merrem could be regarded as the type of *Bitis* Gray by absolute tautonymy and therefore (2) whether under the Code the existing use of *Bitis* Gray was correct;
- (ii) that in these circumstances the proper course to give effect to the decision taken by the Commission would be to indicate in the forthcoming advertisement of the proposed use of the Commission's plenary powers for the purpose of suppressing the name *Cobra Laurenti*, 1768, that it was proposed also to use those powers to set aside all type designations for the genus *Bitis* Gray, 1842, made prior to the date of the Commission's *Opinion* thereon, and to designate *Vipera (Echidna) arietans* Merrem, 1820, as the type of that genus;
- (iii) that effect to the decision recorded in (ii) above should be given in the advertisement of this case shortly to be issued.

13. Effect was given to the foregoing decision in the advertisement (A. (n.s.) 1) which was despatched on 24th June 1939 to the journals specified in proviso (a) to Article 1 of the Plenary Powers Resolution referred to in paragraph 8 above.¹¹

14. In the twelve months following the despatch for publication of the advertisement referred to above, no communication of any kind was received by the Commission objecting to the issue of an *Opinion* in the terms proposed. In view, however, of the delays in postal communications resulting from the existence of a state

¹⁰ For the full text of this Conclusion of the minutes of the meeting of the Plenary Conference, see 1943, *Bull. zool. Nomencl.* 1 : 83-85.

¹¹ For a bibliographical reference to the Plenary Powers Resolution, see footnote 7.

of war in Europe, the Secretary to the Commission thought it proper to direct that a further period of one year should be allowed to elapse in order that all reasonable opportunity should be afforded for the lodging of objections to the course proposed, should a zoologist in any country desire so to proceed. The period of grace so extended expired on 24th June 1941.

15. The position as regards this case was reviewed by the Secretary to the Commission at the close of September 1941. The position then disclosed was that no objection had been raised against the action proposed and that a unanimous majority of the members of the Commission had voted in favour of that course. Accordingly on 1st October 1941, the Secretary to the Commission, acting in virtue of the powers conferred upon him in that behalf by Article 7 of the By-Laws, closed the ballot in this case.

III.—THE CONCLUSION REACHED BY THE INTERNATIONAL COMMISSION.

16. The decision taken by the Commission in the present case is :—

(a) under suspension of the rules :—

(i) to suppress the name *Cobra* Laurenti, 1768, *Specimen medicum* : 103 (Class Reptilia, Order Squamata);

(ii) to set aside all type designations for the genus *Bitis* Gray, 1842, *Zool. Miscell.* : 69 (Class Reptilia, Order Squamata) made prior to the date of this *Opinion* and to designate *Vipera* (*Echnida*) *arietans* Merrem, 1820, *Tent. Syst. Amph.* : 152, as the type of that genus;

(b) to add the generic name *Bitis* Gray, 1842, defined as in (a)(ii) above, to the *Official List of Generic Names in Zoology* as Name No. 621.

17. The following fourteen (14) Commissioners voted in favour of the present *Opinion* :—

do Amaral; Arndt; Cabrera; Calman; Chapman; von Hankó; Hemming; Jordan; Pellegrin; Peters; Richter; Silvestri; Stejneger; and Stiles.

18. No Commissioner voted against the present *Opinion*.

19. The following two (2) Commissioners did not vote on the present *Opinion* :—

Esaki; and Stone.